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⑤④ Improvements to a dispensing container of a solidified stick of viscous fluid product particularly for cosmetics.

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**DE-U- 8 711 655**  
**FR-A- 2 573 734**  
**GB-A- 863 995**

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## Description

The present invention refers to a container functioning as a product dispenser, generally for cosmetic or pharmaceutical type products under solidified fluid stick form, such as deodorants or lip-sticks, or for viscous fluids, such as creams, gels and the like.

The container is of the type which includes a propelling carrier with a central threaded aperture, functioning as a stick holder cup or a pressing piston having a rotational and sliding movement controlled by an axial screw threaded shaft, following a relative rotation of two outer bodies of the container which are rotatable one to other.

Containers of this general type are already known from prior art, examples of which are containers for lip-sticks and stick-deodorants present on the market, and those described in the published EP-A-0332593 illustrating a prior art according to Art.54(3) and in the Italian patent application No. 47736A89 illustrating a national right of earlier date, also including cream dispensers.

The container dispensers described in the above patent applications, comprise a tubular outer case with a circular cross sectional internal surface, open on its upper part and closed at its base, and a screw threaded shaft rigidly connected to the closed base, projecting along the axis of the case, a tubular inner sheath, coaxial to the outer case, with a lower part having a rotatable cylindrical outer surface in sliding contact with the inner surface of the case and a closed base provided with a hole, and an upper part projecting above the case, a movable carrier threadedly engaged with the screw shaft through the central aperture, and having a transversal diaphragm and an outer wall in sliding contact with the inner surface of the inner sheath, forming an elastic friction sealing, engagement means on the sheath and on the case suitable for preventing a relative movement in the axial direction of the sheath and the case, so that these may achieve only a relative rotational movement around their common longitudinal axis, and a cap.

The process of moulding the shaft in a single piece with the base of the outer case can be difficult, the shaft being moulded inside a beaker-shaped case, and provided with a series of undercuts resulting from the reduced pitch thread.

In the above mentioned Italian patent application 47736A89 there have been illustrated shafts provided with a basal platform, moulded separately from the bottom of the case and subsequently made integral by engagement between surfaces which extend in an axial direction.

One must take into account that the ease of moulding of such bodies which make up the container is of fundamental practical and commercial importance.

Other conventional containers present on the

market for stick products contain a carrier or cup screwed onto a shaft integral with the outer case and sliding along the inside of the inner sheath. The carrier is normally provided with one or more guiding grooves on its outer surface which engage with respective guiding splines on the inner surface of the inner sheath, in a way to be forced to move in an axial direction, to avoid that the rotation of the outer case drags it in joint rotation.

The presence of splines is often prejudicial to the external appearance of the stick product.

The container of the present invention has a hermetically sealed coupling between propelling carrier and the inner body or sheath, without grooves or respective axial guiding splines.

In fact, a rod displaced relative to the centre and projecting in an axial direction to the top and which passes through the propelling carrier prevents the latter to rotate with respect to the inner case, aiding it in the sliding movement in the axial direction.

In addition to said advantage, the following further advantages are gained according to the present invention.

The screw shaft can be moulded separately from the main outer case and can be easily coupled in a rigid manner to the base of the outer case. The coupling can be realized by a simple glueing operation, for example by ultrasound, or by forced pressure which generates binding or by snap fastening between the relative projecting and opposite surfaces of the outer case and the shaft.

The wall of the inner sheath can be of variable thickness. In fact, whilst the outer surface of said wall is circular in section to slide on the inner surface of the case, the inner surface of said wall can be of non-circular section. For example it can be elliptical, oval, heart-shaped, polygonal and the like. In fact, the carrier must slide axially and adhere to this surface by friction.

The outer case and the inner sheath may be realized in transparent material so that the carrier and the product may be seen from the outside.

GB-A-863.995 describes a dispenser for substances in stick form comprising a follower filled with the stick material slidably mounted on a stem which is not rotatable with respect to the follower. The follower is provided on its periphery with a helical rib or groove cooperating by screw engagement with the internal surface of a case member. By relative rotation between the stem and the case member, displacement of the follower is obtained.

DE-U-8711655 describes a container for cosmetic products comprising a case and a base rotatably mounted on one another. The base has an integral central gear in engagement with a gear forming the head of an excentric screw threadedly engaged with a follower contained in the case. Rotation of the base operates rotation of the screw and displacement of

the follower within the case. Rotation of the follower is hindered by engagement thereof with ribs provided on the inner peripheral surface of the case.

Other characteristics and advantages of the present invention will become more evident from the following description of preferred embodiments, with reference to the accompanying drawings, in which:

fig. 1 is a longitudinal section of a dispenser container according to the invention, particularly for stick products;

fig. 2 is the section along line II - II of fig. 1;

fig. 3 is a modification of fig. 2, suitable for deodorant products;

fig. 4 is a modification of fig. 3;

fig. 5 is a section along line V - V of fig. 4;

fig. 6 is a bottom view of a detail regarding the snap fastening means on the platform integral with the shaft of fig. 4;

fig. 7 is a longitudinal section along line VII - VII of fig. 6 which shows the snap fastening means projecting downwards;

fig. 8 is a longitudinal section view of a detail regarding the snap fastening means on the bottom of the case of fig. 4 which engage with the respective snap fastening means onto the platform integral with the shaft of figures 6 and 7;

fig. 9 is a peripheral development which shows the position of the snap fastening means of figures 7 and 8 engaged with each other;

fig. 10 is a partial view of an embodiment of a container for dispensing viscous fluid product of creamy type;

fig. 11 is a modification of fig. 1 with a double guide rod;

fig. 12 is a section along line XII - XII of fig. 11.

With reference to fig. 1 and fig. 2, the container dispenser of the present invention is shown in an embodiment suitable for containing solidified fluid product, that is those commonly called "stick" product, such as deodorants, lip-sticks and the like. More particularly, fig. 1 is suitable as a container for lip cream.

The following components of the container according to the invention are common to all the embodiments shown, both for solidified products and for creamy type products.

A tubular outer case 1 is closed at its bottom end by base 2 and open at its corresponding top end. It has an outer surface 3 and an inner surface 4 with a circular cross-section, perpendicular to the longitudinal axis of the case.

Integral to the base 2 and extending towards the top of the case 1 is a screw shaft 5.

A tubular inner sheath 6 is inserted coaxially to the case 1 and its outer surface 7 of circular cross-section is in sliding contact with the inner surface 4 of the case 1. Its inner surface is indicated 8. The sheath 6 projects further with respect to case 1 by a projecting portion 9. The upper end of the sheath is

open and the lower end closed by a transversal bottom wall 10, having a central aperture 11. A guiding rod 12 projects upwardly in an axial direction from the bottom 10 of the sheath 6 and is off-centre with respect to the container's axis.

The outer case 1 and the inner sheath 6 can rotate, with respect to each other, sliding along the inner surface 4 and the outer surface 7, respectively, around their common longitudinal axis. They are however constrained respect to a movement in the axial direction.

The constraint which prevents their relative axial movement can be realized in several ways.

In fig. 1, the constraint is realized in correspondence to the top of the case 1.

The outer case 1 narrows at the upper end providing a wall 13 of reduced thickness. The reduced thickness can be realized as shown in 14, starting from the inner surface 4, or as shown in 15, starting from the outer surface 3 of the case 1. In such a way the wall 13 provides on the outer wall a shelf 16 on which a cap 17 can be rested.

The wall 13 of the case 1 provides one or more annular ribbings 18 projecting inwardly, between which are formed recesses in which the analogous annular ribbings 19 are coupled projecting inwardly into the sheath. This coupling, which occurs by snap fastening in the assembly operation of the container, prevents the relative axial shift by the case 1 in the sheath 6, nevertheless allowing a reciprocal rotation.

A movable propelling carrier 20 with rotational and sliding movement is shown in its extreme retracted bottom position.

The carrier, in the case of the embodiment of fig. 1, consists of a cup which serves to hold the product and push it upwardly for use.

In the case of solidified stick products, the carrier has a cup-like shape, whereas in the case of cream products it has a pushing piston shape.

In the continuing description the terms "cup" and "piston" will be used as synonyms to "carrier", depending on the case.

In the embodiment of fig. 1 the cup 20 is threadedly coupled with a screw thread 22 of the shaft 5 by way of a threaded tubular inner boss 21. On the bottom of the cup, an appropriate offset aperture 23 is provided, through which the guide rod 12 slides.

The guide rod 12 does not allow the cup 20 to rotate about the axis of the internal body 6 so that it is not necessary to provide guiding ribbings on the inner surface 8 of the sheath 6.

The cup 20 has an outer wall structure which generates a frictional resistance in the sliding movement of the cup 20 on the inner surface 8 of the sheath 6.

This frictional resistance is obtained by a flaring 24 on the upper edge of the cup, which proceeds to scrape the inner surface 8, and also by annular ribs

25 on the cup, projecting externally, to aid scraping and to maintain the alignment.

In this way the stick product projecting from the internal sheath 6 is devoid of the unesthetic traces of the guiding ribbings.

A cap 17 is in contact with the external body 1 on the ledge 16 and on the outer surface 15 of the reduced thickness wall 13, while it is not in contact with the projecting portion 9 of the inner body 6.

With the cap 17 applied, only the outline of the ledge 16 will be visible externally and this allows the outer surface 3 and the respective base 2 of the case 1 and the cap 17 to be given any external cross sectional configuration.

The operation for the rotating and sliding movement of the cup 20 occurs by making the inner body rotate relative to the outer body 1, or viceversa.

The rotation occurs sliding between the inner surface 4 of the case 1 and outer surface 7 of the sheath 6. As a consequence, the inner surface 8 of the sheath 6 can assume any cross sectional configuration, such that the cross-section of the stick can also be realized to liking with different shapes to that circular, such as elliptical, oval, heart-shaped, polygonal and the like.

The illustrated structure shows the advantage that in realizing the sheath 6 with transparent material it is possible to see the upper part of the product through transparency, without removing the cap, provided the cap is also transparent. Furthermore, if the outer case 1 is also transparent, it is possible to see the propelling carrier and the product held by it.

Generally the case 1 and the sheath 6 can be realized by more components. This may be necessary for moulding purposes or for reasons of compatibility between the various plastic materials with the product to be contained.

Furthermore, the constraint which prevents the axial movement of the case and the sheath can be realized both in correspondence to the top, as shown in fig. 1, and in correspondence to the bottom end, as illustrated in other embodiments.

In the various embodiments which are illustrated below, the same reference numbers of fig. 1 have, in as far as possible, been used to indicate similar items.

In fig. 2, the container is shown in section along line II - II of fig. 1.

The coupling of the cup with the inner wall of the sheath 6, by the flared upper edge 24 of the cup which pushes elastically on the wall 3, is characterized in this case by an uninterrupted line without grooves and respective ribbings, capable of affording further to an efficient elastic friction also an excellent hermetic seal. The crossing of the guiding shaft 12 in the aperture 23, on the floor of the cup is also shown.

In fig. 3 an embodiment suited for a deodorant stick product is shown, where the hermetic seal is particularly cared for.

In this embodiment, the engagement between the sheath 6 with the case 1 and a hollow screw threaded member 26, rigidly connected with each other to be integral, is realized at the bottom, instead of the top.

The hollow screw threaded member 26 is rigidly connected to a post 27 projecting axially from the base 2 of the case 1 towards the top. The rigid engagement between the two members can occur by glueing, for example by ultrasound, or by forced compression which generates binding between the surfaces of the hollow screw threaded member and the projecting post 27. The hollow member merges, close to the base, with a flange 30, projecting downwardly which is engaged by fitting, or by pressure, or by glueing, with a respective flange 31 projecting from the bottom of the case 1 towards the top.

On this joining surface between the hollow member 26 and the flange 30 a radial rib 32 is realized, preferably annular, which is engaged with a central aperture 33 on the bottom wall 34 of the case, to afford a constraint in an axial direction.

To this end, the sheath 6 is assembled on the case 1 by letting the hollow screw threaded member 26 slide into the flange 33 until the rib 32 snaps into place above the aperture edge 33, blocking the sheath 6. The flange 30 is made integral beforehand with respect to the post 27 and with the wall 31 of the base 2 of the case 1. The cup 20 is provided with apertures 35 on its floor to allow that, when the product is poured from the top of the body 6, in its fluid state, it can gather on the underlying space delimited by the lower inner surface of the outer wall of the cup 20, by the bottom wall 34 of the sheath 6 and by a flange 36.

The flange 36 projects from the floor of the cup and adheres with elastic friction to the bottom 34 of the sheath 6 and to a projection 37 of the same, so as to afford a hermetic seal.

A tubular appendix 38, projecting downwardly is provided around the aperture 23 on the floor of the cup, to give a larger contact surface with the guide rod 12.

In fig. 4 a further modification is shown for rigidly connecting the shaft 26 with the base 2 of the case 1.

In this embodiment the post 27, projecting from the base 2, has a star-shaped cross-sectional structure and a reduced height, being only partially inserted on the lower part of the hollow member 28 of the screw shaft 26.

The screw shaft 26 is provided with a lower platform 39 having on its periphery a plurality of tongues 40, turned downwardly. On their extremities, the tongues 40 have small lugs 41 turned internally, functioning as small undercuts. The lugs 41 are snap locked with respective and directly opposite small lugs 42, turned outwardly, born by respective ton-

gues 43, projecting upwardly from the base 2.

When the lugs 41 and 42 are locked, the platform 39 with the screw shaft 26, is made rigid with the base 2 of the case.

Therefore, the shaft 26 and the outer case 1 behave as a single piece, even if moulded separately.

Figure 5 shows a cross section along line V - V of fig. 4, on two levels, where the left side of fig. 5 is at an elevated level with respect to the cup, whilst the right side is at a corresponding level to the engagement between the respective lugs 41 and 42. On the left side of fig. 5 the transversal diaphragm or floor of the cup is visible, having apertures 35 to allow the fluid product to percolate in the underlying space, as has been described in the embodiment of fig. 3.

On the right side of fig. 5 the guiding rod 12 is shown in section, surrounded by the appendix 38 which merges with the wall 36 and projects downwardly. Furthermore there are shown the star-shaped section of the post 27 and the lugs 41 and 42 born by respective tongues 40 on platform 39, and the respective tongues 43 of the base 2.

On the right side of fig. 5 a better illustrated detail is shown, furthermore, of the particular realization of the tongues 40 which are joined at 44, in a Z-shaped course, with as many positioning or centering adjacent tongues 45, placed on a slightly smaller diameter.

In fig. 6 an enlarged detail of the platform 39 is shown, seen from the bottom, with the tongues 40 and 45 joined between themselves in a Z shape from the joining 44.

In fig. 7 the details of fig. 6 are visible in longitudinal section.

In fig. 8 the details of tongues 42 are visible, with the lugs 43, born by the base 2 of the outer case 1.

On fig. 9 the positions of tongues 40 engaged with the tongues 43 are visible in a plane development of the platform 39.

In fig. 10 a partial view of the container is shown in an embodiment suitable for a viscous fluid, such as cream, milk, gel, doughy substances and the like, which must be dispensed through an aperture or hole 46.

In the figure the sheath 6 is closed by a transversal wall 47, preferably convexed, fixed to the reduced thickness upper portion 49 of the sheath by a flange 48.

As a modification, the flange 48 may extend along the entire wall 9, such as to be the only projecting wall above the upper extremity of the case 1.

An annular projection 50, projecting inwardly, realized on the flange 48, snaps locked in a respective groove 51, provided on the upper portion 49 of the sheath 6.

Between the transversal closure wall 47 and the upper end of the sheath 6 is inserted a ring gasket 52 to guarantee a hermetic seal between the two bodies.

The propelling carrier in the shape of a pressing piston 43, consists of a transversal wall 54 and a skirt 55. The transversal wall 54 is preferably convex, or complementary to the wall 47, to push the viscous fluid product. The skirt 55 projects downwardly and is provided with annular ribbings 56, capable of pressing elastically along the whole periphery of the inner surface 8 of the sheath 6 to afford a peripheral hermetic seal.

The piston 43 slides along the guide rod 12 by way of an aperture 23 on its wall 54. The aperture 23 is provided with an appendix 38 along its edge, projecting downwardly towards the base, to obtain a larger contact surface with respect to the simple aperture 23.

In fig. 11 and fig. 12, a modified embodiment of fig. 1 is shown, in which the guiding of cup 20 is realized by two rods 57 and 57', positioned on opposite sides with respect to the axis, and tightly fitted to the screw 22 of the shaft 5. Both rods are integral with the bottom 10 of the sheath 6 and project towards the top.

The upper ends of the opposite guide rods 57 and 57' are joined above at 58 of the upper end of the screw shaft 5. In such a way, they may be realized as a single piece, riding on said screw shaft 5, and in a symmetrical position with respect to it, instead of being offset.

The threading of the tubular inner projection 21 of the cup 20, instead of having a circular structure as in the previous figures, consists of two circular sectors 59 and 59', opposite with respect to the axis, and two tubular wings 60 and 60', which surround the guide rods 57 and 57'.

The apertures 61 and 61', on the floor of the cup 20, allow the sliding of the cup on rods 57 and 57'. The apertures 61 and 61' are continuous with the threaded hole of the projection 21 of the cup, such as to form altogether a single aperture.

The guide rod realized with such a structure affords a better centering of the cup in the assembly operation and a better stability and solidity along its length.

While having described the invention in considerable detail in various embodiments, it is understood that all fall within a single inventive concept which characterizes the fundamental structure of the container in the present invention.

## Claims

1. Dispenser container of a solidified stick or viscous fluid product, comprising a tubular outer case (1), with inner surface (4) of circular cross-section, open at its top end and with a closed base (2), and a screw threaded shaft (5) rigidly connected to said closed base (2) extended along the axis of said case, a tubular inner sheath (6),

- coaxial to said outer case (1) with a lower part having an outer cylindrical surface (7) rotatable in sliding contact with inner surface (4) of the case and a closed bottom (1) provided with an aperture (11), and an upper portion projecting above said case (1), a movable carrier (20, 53) threadedly coupled with said screw shaft (5) through a central aperture and having a transversal diaphragm and an outer wall in sliding contact with the inner surface (8) of the inner sheath, with elastic friction peripheral hermetic seal, engagement means on the sheath (6) and on the case (1) appropriate for preventing a reciprocal movement in the axial direction of the sheath and the case, so that these are allowed only a relative rotatory movement around their common longitudinal axis, and a cap (17), whereby at least one guide rod (12, 57) off-centre with respect to said axis and parallel to it is fixed rigidly to the bottom (10) in said inner sheath (6), and said movable carrier (20, 53) provides an aperture (23) on the transversal diaphragm with which said guide rod is engaged in a sliding manner, and by which the relative rotation of the sheath and the case determines a sliding of the carrier at the inside of the sheath, guided by said screw shaft and by said off-centre guide rod.
2. Container according to claim 1, in which two guide rods (57, 57') are positioned adjacent and in contact with said screw shaft (5), on its horizontally opposite sides, said carrier having a central aperture formed in such a way to be threadedly engaged with horizontally opposite sectors of the screw (22) of the shaft and in sliding contact with said rods, on horizontally opposite sides, effectively at 90° with respect to said horizontally opposite sectors.
  3. Container according to claim 2, in which said two guide rods are rigidly joined between themselves above the free end of said screw shaft.
  4. Container according to any of the previous claims, in which said screw shaft is formed by two members comprising a post (27) projecting from said base (2) of said case (1) and a hollow elongated screw threaded member (26) provided with an outer screw (22), assembled on said post (27) and rigidly connected to it.
  5. Container according to claim 4, in which said hollow elongated screw threaded member (26) is rigidly connected to said post (27) by glueing, ultrasound or forced coupling.
  6. Container according to claim 4, in which the base (2) of said case (1) is provided with a circular cylindrical flange (31) concentric to said post and said hollow elongated member (26) comprises a flange (30) having a circular cavity which can be rigidly engaged with said flange.
  7. Container according to claim 6, in which said flange (30) of the hollow elongated member (26) comprises a transversal platform (39) provided on its periphery with a succession of tongues (40) turned downwardly, having on their extremities small lugs (41) acting as small undercuts and the base (2) of the case (1) is provided with a succession of tongues (43) turned upwardly having lugs (42) which can snap-lock with said lugs (41) on the hollow member (26) to make it rigid to said case.
  8. Container according to claim 7, in which each tongue (40) on the hollow screw (26) is joined by a Z-shaped joining to a respective positioning and centering tongue (45) placed on a more inner circumference on said transversal platform (39).
  9. Container according to claim 6, in which said engagement means on the outer case (1) and on the inner sheath (6) comprise at least one annular rib (32) on the base of the screw shaft (5, 26) and an aperture (11, 33) provided on the bottom wall (10, 34) of the inner sheath (6), where said rib (32) is snap-locked.
  10. Container according to claim 7, in which said means of engagement on the outer case (1) and on the inner sheath (6) comprise said succession of tongues (40) turned towards the bottom on the base of the screw shaft (5, 26) and said tongues (40) are engaged on the edge of the central aperture (33) on the bottom wall (34) of the outer sheath (6).
  11. Container according to claim 1, in which said means of engagement on the outer case (1) and on the inner sheath (6) comprise a part of the upper wall (13) of the outer case with a reduced thickness starting from the inner surface (4), and from the outer surface (3) of the case (1), annular ribbings (18) projecting inwardly on said reduced wall part and annular ribbings (19) projecting outwardly on said sheath, which engage by snap fastening with free rotational movement and axial movement constraint.
  12. Container according to any of the preceding claims, in which the means for the peripheral sealing by elastic friction comprise a flared edge (24) and, or annular ribbings (25, 56) on the outer surface of the carrier (20, 53) pressing elastically on the inner surface (8) of the inner sheath (6).

13. Container according to claim 1, in which the edge of said aperture (23, 61, 61') of the carrier is provided with a tubular wall (38, 60, 60') projecting from the transversal surface, such as to be in sliding contact with the guide rod (12, 57, 57') along an extended surface.

14. Container according to any of the preceding claims, in which the tubular wall of the inner sheath (6) has a variable thickness and its inner surface is elliptical, oval, heart-shaped or polygonal in cross-section and the respective wall of the carrier (20, 53) has a complementary configuration to this one.

15. Container according to any of the preceding claims, in which the cap (17) and the inner sheath (6), or the outer case (1) are realized of plastic material.

16. Container according to claim 1, in which said transversal diaphragm of the movable carrier (20, 53) is positioned half way up said outer wall and is provided with apertures (35) to allow the percolation of fluid product underneath said diaphragm during pouring of said material for stick products.

#### Patentansprüche

1. Abgabebehälter für einen verfestigten Stift oder ein viskoses Fluidprodukt, mit: einem röhrenförmigen äußeren Gehäuse (1) mit einer Innenfläche (4) kreisförmigen Querschnitts, das an seinem oberen Endabschnitt offen ist und einen geschlossenen Boden (2) hat, und einer Welle (5) mit Schraubengewinde, die sich starr mit dem geschlossenen Boden (2) verbunden entlang der Achse des Gehäuses erstreckt, einer zu dem äußeren Gehäuse (1) koaxialen röhrenförmigen inneren Hülse (6) mit einem unteren Teil, der eine in gleitenden Kontakt mit der inneren Fläche (4) des Gehäuses drehbare äußere zylindrische Fläche (7) und einen mit einer Öffnung (11) versehenen geschlossenen Boden (10) hat, und einem über das Gehäuse (1) vorstehenden oberen Abschnitt, einem bewegbaren Träger (20, 53), der durch eine mittlere Öffnung mit der Schraubwelle (5) schraubverbunden ist und einen quer verlaufenden Zwischenboden und eine äußere Wand hat, die mit einer elastischen, reibenden hermetischen Umfangsabdichtung in gleitendem Kontakt mit der inneren Fläche (8) der inneren Hülse ist, Eingriffseinrichtungen an der Hülse (6) und an dem Gehäuse (1), die geeignet sind, um eine Hin- und Herbewegung der Hülse und des Gehäuses in der axialen Richtung zu verhindern, so

daß diesen nur eine drehende Relativbewegung um ihre gemeinsame Längsachse gestattet ist, und einer Kappe (17), wobei mindestens ein Führungsstab (12, 57) außermittig mit Bezug auf die Achse und parallel zu ihr starr an dem Boden (10) in der inneren Hülse (6) befestigt ist, und der bewegbare Träger (20, 53) an dem quer verlaufenden Zwischenboden mit einer Öffnung (23) versehen ist, mit welcher der Führungsstab gleitend in Eingriff gebracht ist, und durch welche die Relativedrehung der Hülse und des Gehäuses ein von der Schraubwelle und dem außermittigen Führungsstab geführtes Gleiten des Trägers an der Innenseite der Hülse bestimmt.

2. Behälter gemäß Anspruch 1, in dem zwei Führungsstäbe (57, 57') angrenzend der und in Kontakt mit der Schraubwelle (5) an ihren horizontal gegenüberliegenden Seiten angeordnet sind, wobei der Träger eine mittlere Öffnung hat, die auf eine solche Weise ausgebildet ist, daß sie über ein Gewinde mit den horizontal gegenüberliegenden Sektoren der Schraube (22) der Welle in Eingriff gebracht ist und effektiv bei 90° mit Bezug auf die horizontal gegenüberliegenden Sektoren auf den horizontal gegenüberliegenden Seiten in Gleitkontakt mit den Stäben ist.

3. Behälter gemäß Anspruch 2, bei dem die zwei Führungsstäbe oberhalb des freien Endabschnitts der Schraubwelle zwischen sich starr verbunden sind.

4. Behälter gemäß einem der vorangehenden Ansprüche, bei dem die Schraubwelle durch zwei Elemente ausgebildet ist, die einen von dem Boden (2) des Gehäuses (1) vorstehenden Ständer (27) und ein mit einer äußeren Schraube (22) versehenes hohles längliches Element (26) mit Schraubengewinde aufweisen, das an den Ständer (27) gefügt ist und starr mit ihm verbunden ist.

5. Behälter gemäß Anspruch 4, bei dem das hohle längliche Element (26) mit Schraubengewinde durch Kleben, Ultraschall oder Einpressen starr mit dem Ständer (27) verbunden ist.

6. Behälter gemäß Anspruch 4, bei dem der Boden (2) des Gehäuses (1) mit einem kreisförmigen zylindrischen Flansch (31) versehen ist, der mit dem Ständer konzentrisch ist, und das hohle längliche Element (26) einen Flansch (30) aufweist, der einen kreisförmigen Hohlraum hat, welcher starr mit dem Flansch in Eingriff gebracht werden kann.

7. Behälter gemäß Anspruch 6, bei dem der Flansch (30) des hohlen länglichen Elements (26) eine

- Querfläche (39) aufweist, die an ihrem Umfang mit einer Anzahl von abwärts gerichteten Zungen (40) versehen ist, die an ihren Enden als kleine Unterschneidungen wirkende kleine Ansätze (41) haben, und der Boden (2) des Gehäuses (1) mit einer Anzahl von aufwärts gerichteten Zungen (43) versehen ist, die Ansätze (42) haben, welche mit den Ansätzen (41) an dem hohlen Element (26) einrasten können, um es starr zu dem Gehäuse hin zu machen.
8. Behälter gemäß Anspruch 7, bei dem jede Zunge (40) an der hohlen Schraube (26) durch eine Z-förmige Verbindung mit einer jeweiligen Positionier- und Zentrierzunge (45) verbunden ist, die an einem mehr innerhalb gelegenen Umfang auf der Querplattform (39) angebracht ist.
9. Behälter gemäß Anspruch 6, bei dem die Eingriffseinrichtungen an dem äußeren Gehäuse (1) und an der inneren Hülse (6) mindestens eine ringförmige Rippe (32) an der Basis der Schraubwelle (5, 26) und eine an der Bodenwand (10, 34) der inneren Hülse (6) geschaffene Öffnung (11, 33) aufweisen, in die die Rippe (32) eingerastet ist.
10. Behälter gemäß Anspruch 7, bei dem die Eingriffseinrichtungen an dem äußeren Gehäuse (1) und an der inneren Hülse (6) die Anzahl von Zungen (40) aufweisen, die in Richtung auf den Boden an der Basis der Schraubwelle (5, 26) gerichtet sind, und die Zungen (40) an der Kante der mittleren Öffnung (33) an der Bodenwand (34) der äußeren Hülse (6) in Eingriff gebracht sind.
11. Behälter gemäß Anspruch 1, bei dem die Eingriffseinrichtungen an dem äußeren Gehäuse (1) und an der inneren Hülse (6) einen Teil der oberen Wand (13) des äußeren Gehäuses mit einer reduzierten Dicke aufweisen, die von der inneren Fläche (4) und von der äußeren Fläche (3) des Gehäuses (1) beginnt, wobei an dem reduzierten Wandteil ringförmige Verrippungen (18) nach innen vorstehen und an der Hülse ringförmige Verrippungen (19) nach außen vorstehen, welche durch Einrasten bei freier Drehbewegung und eingeschränkter Axialbewegung in Eingriff gebracht sind.
12. Behälter gemäß einem der vorangehenden Ansprüche, bei dem die Einrichtung für die Umfangsabdichtung durch elastische Reibung eine konisch erweiterte Kante (24) und, oder ringförmige Verrippungen (25, 56) an der äußeren Fläche des Trägers (20, 53) aufweist, die elastisch an die innere Fläche (8) der inneren Hülse (6) drücken.
13. Behälter gemäß Anspruch 1, bei dem die Kante der Öffnung (23, 61, 61') des Trägers mit einer röhrenförmigen Wand (38, 60, 60') versehen ist, die von der Querfläche vorsteht, um entlang einer verlängerten Fläche in Gleitkontakt mit dem Führungsstab (12, 57, 57') zu sein.
14. Behälter gemäß einem der vorangehenden Ansprüche, bei dem die röhrenförmige Wand der inneren Hülse (6) eine variable Dicke hat, und ihre innere Fläche im Querschnitt elliptisch, oval, herzförmig oder vieleckig ist, und die jeweilige Wand des Trägers (20, 53) eine diesem entsprechende komplementäre Bauform hat.
15. Behälter gemäß einem der vorangehenden Ansprüche, bei dem die Kappe (17) und die innere Hülse (6), oder das äußere Gehäuse (1) aus Plastikmaterial gefertigt sind.
16. Behälter gemäß Anspruch 1, bei dem die quer verlaufende Zwischenboden des bewegbaren Trägers (20, 53) auf halben Weg der äußeren Wand angeordnet ist und mit Öffnungen (35) versehen ist, um das Durchsickern des Fluidprodukts unter den Zwischenboden während des Gießens des Materials für Stiftprodukte zu erlauben.

### Revendications

1. Réservoir de dispensateur d'un bâtonnet ou "stick" solidifié ou de produit fluide visqueux, comprenant un boîtier extérieur tubulaire (1) avec une surface intérieure (4) de section transversale circulaire, ouverte sur son extrémité supérieure et avec un fond fermé (2), et une tige filetée (5) raccordée de façon rigide au fond fermé (2), s'étendant le long de l'axe de ce boîtier, une gaine intérieure tubulaire (6), coaxiale au boîtier extérieur (1), avec une partie inférieure présentant une surface cylindrique extérieure (7) rotative en contact coulissant avec la surface intérieure (4) du boîtier et un fond fermé (10) muni d'une ouverture (11), et une portion supérieure faisant saillie au-dessus du boîtier (1), un support mobile (20, 53) raccordé à vis avec la tige filetée (5) à travers une ouverture centrale, et présentant une membrane transversale et une paroi extérieure en contact coulissant avec la surface intérieure (8) de la gaine intérieure, avec un joint d'étanchéité périphérique à friction élastique, le moyen d'engagement sur la gaine (6) et sur le boîtier (1) permettant d'empêcher le mouvement réciproque dans la direction axiale de la gaine et du boîtier, de sorte que ceux-ci ne peuvent effectuer qu'un mouvement rotatif relatif autour de leur axe longitudinal commun, et un capuchon (17), où au



- moins une tige de guidage (12, 57) décentrée par rapport à l'axe et parallèle à celui-ci est fixée de façon rigide sur le fond (10) dans la gaine intérieure (6), et le support mobile (20, 53) fournit une ouverture (23) sur la membrane transversale avec laquelle coopère la tige de guidage d'une manière coulissante, et grâce à quoi la rotation relative de la gaine et du boîtier détermine un coulisement du support à l'intérieur de la gaine, guidée par la tige filetée et par la tige de guidage décentrée.
2. Réservoir selon la revendication 1, caractérisé en ce que deux tiges de guidage (57, 57') sont positionnées de façon contiguë et en contact avec la tige filetée (5) sur ses côtés opposés horizontalement, le support ayant une ouverture centrale formée de manière à être raccordée par vissage aux secteurs horizontalement opposés de la vis (22) de la tige et en contact coulissant avec les tiges, sur les côtés opposés horizontalement, effectivement à 90° par rapport au secteur horizontalement opposé.
  3. Réservoir selon la revendication 2, caractérisé en ce que les deux tiges de guidage sont reliées de façon rigide entre elles au-dessus de l'extrémité libre de la tige filetée.
  4. Réservoir selon l'une quelconque des revendications précédentes, caractérisé en ce que la tige filetée est constituée de deux éléments comprenant un pivot (27) faisant saillie à partir du fond (2) du boîtier (1) et un élément fileté allongé creux (26) muni d'un filetage extérieur (22) monté sur ce pivot (27) et raccordé de façon rigide à celui-ci.
  5. Réservoir selon la revendication 4, caractérisé en ce que l'élément fileté allongé creux (26) est raccordé de façon rigide au pivot (27) par collage, ultrasonS ou accouplement forcé.
  6. Réservoir selon la revendication 4, caractérisé en ce que le fond (2) du boîtier (1) est muni d'un collet cylindrique circulaire (31) concentrique au pivot et l'élément allongé creux (26) comprend une paroi cylindrique circulaire (31) concentrique au pivot et l'élément allongé creux (26) comprend une paroi tubulaire (30) ayant une cavité circulaire pouvant coopérer de façon rigide avec cette paroi.
  7. Réservoir selon la revendication 6, caractérisé en ce que la paroi tubulaire (30) de l'élément allongé creux (26) comprend une plate-forme transversale (39) munie sur sa périphérie d'une succession de languettes (40) tournées vers le bas, présentant sur leurs extrémités de petites saillies (41) formant de petits creux et le fond (2) du boîtier (1) est muni d'une succession de languettes (43) tournées vers le haut et comportant des saillies (42) qui peuvent s'engager en pression avec ces saillies (41) sur l'élément creux (26) pour le rendre solidaire du boîtier.
  8. Réservoir selon la revendication 7, caractérisé en ce que chaque languette (40) sur l'élément fileté creux (26) est réunie par une jonction en forme de Z sur une languette de centrage et de positionnement correspondante (45) placée sur une circonférence plus intérieure sur la plate-forme transversale (39).
  9. Réservoir selon la revendication 6, caractérisé en ce que le moyen d'engagement sur le boîtier extérieur (1) et sur la gaine intérieure (6) comprend au moins une nervure annulaire (32) sur le fond de la tige filetée (5, 26) et une ouverture (11, 33) pratiquée sur la paroi de fond (10, 34) de la gaine intérieure (6) où la nervure (32) est bloquée à pression.
  10. Réservoir selon la revendication 7, caractérisé en ce que le moyen d'engagement sur le boîtier extérieur (1) et sur la gaine intérieure (6) comprend la succession de languettes (40) tournées vers le fond sur la base de la tige filetée (5, 26) et les languettes (40) coopèrent avec le bord de l'ouverture centrale (33) sur la paroi de fond (34) de la gaine extérieure (6).
  11. Réservoir selon la revendication 1, caractérisé en ce que le moyen d'engagement sur le boîtier extérieur (1) et sur la gaine intérieure (6) comprend une partie de la paroi supérieure (13) du boîtier extérieur avec une épaisseur réduite commençant à partir de la surface intérieure (4) et à partir de la surface extérieure (3) du boîtier (1), des nervures annulaires (18) faisant saillie vers l'intérieur sur la partie de paroi réduite et les nervures annulaires (19) faisant saillie vers l'extérieur sur la gaine, qui coopèrent par liaison à pression au mouvement rotatif libre et au mouvement axial forcé.
  12. Réservoir selon l'une quelconque des revendications précédentes, caractérisé en ce que les moyens pour l'étanchéité périphérique par friction élastique comprennent un bord évasé (24) et/ou des nervures annulaires (25, 56) sur la surface extérieure du support (20, 53) venant pousser élastiquement la surface intérieure (8) de la gaine intérieure (6).
  13. Réservoir selon la revendication 1, caractérisé

en ce que le bord de l'ouverture (23, 61, 61') du support est muni d'une paroi tubulaire (38, 60, 60') faisant saillie à partir de la surface transversale de façon à être en contact coulissant avec la tige de guidage (12, 57, 57') le long d'une surface allongée. 5

14. Réservoir selon l'une quelconque des revendications précédentes, caractérisé en ce que la paroi tubulaire de la gaine intérieure (6) présente une épaisseur variable et sa surface intérieure est elliptique, ovale, en forme de cœur ou polygonale en coupe transversale et la paroi respective du support (20, 53) présente une configuration complémentaire à celle-ci. 10 15

15. Réservoir selon l'une quelconque des revendications précédentes, caractérisé en ce que le capuchon (17) et la gaine intérieure (6) ou le boîtier extérieur (1) sont réalisés en matériau plastique. 20

16. Réservoir selon la revendication 1, caractérisé en ce que la membrane transversale du support mobile (20, 53) est positionnée à mi-chemin vers le sommet de la paroi extérieure, et est munie d'ouvertures (35) pour permettre la percolation du produit fluide pendant la coulée de la matière du produit en bâtonnets. 25

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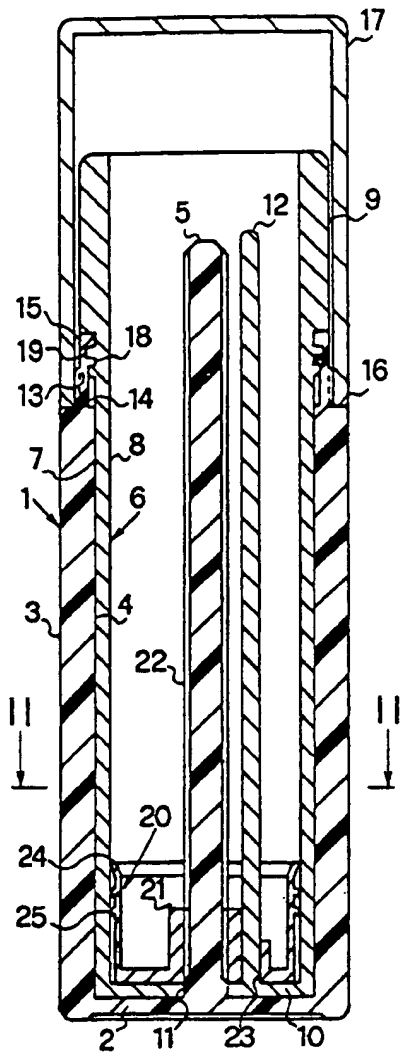
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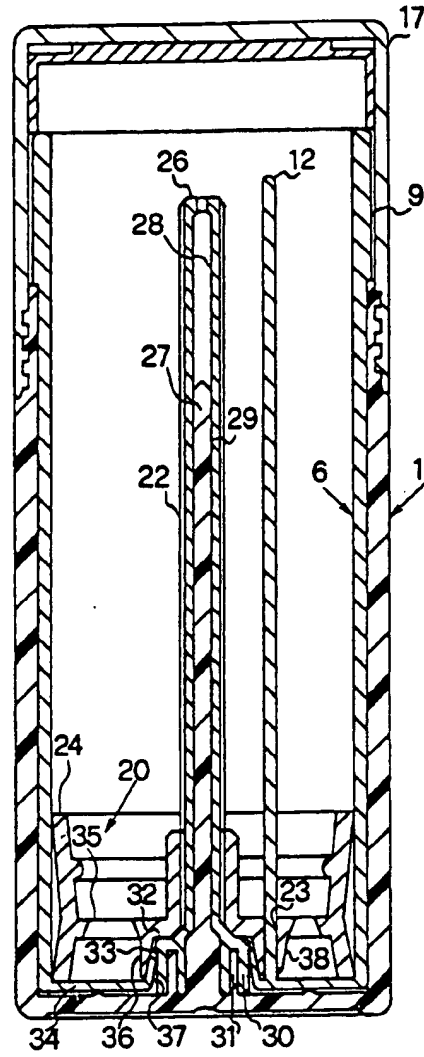
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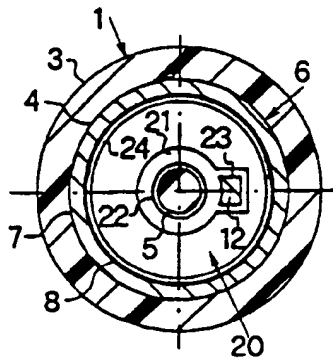
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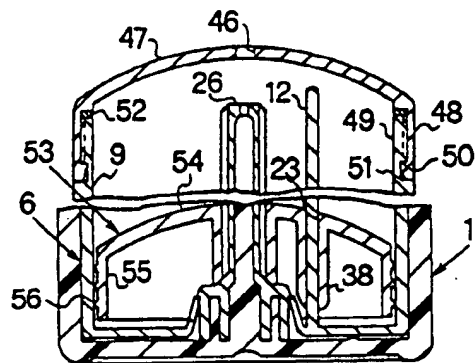
*Fig. 1*



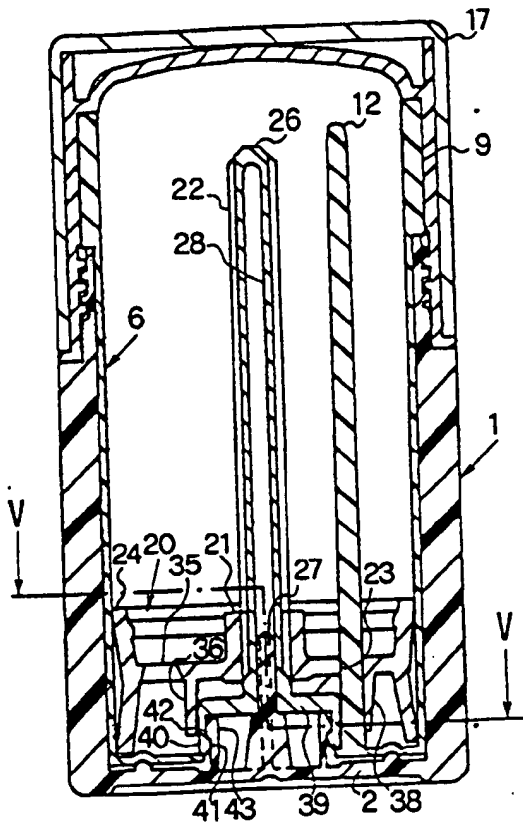
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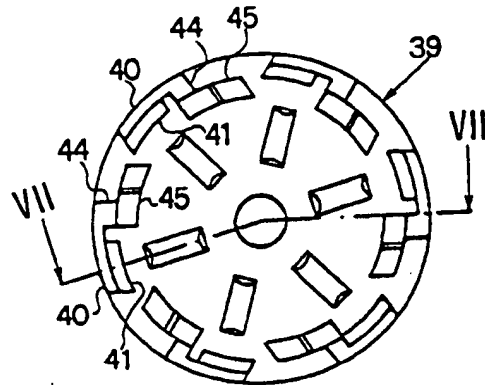
*Fig. 2*



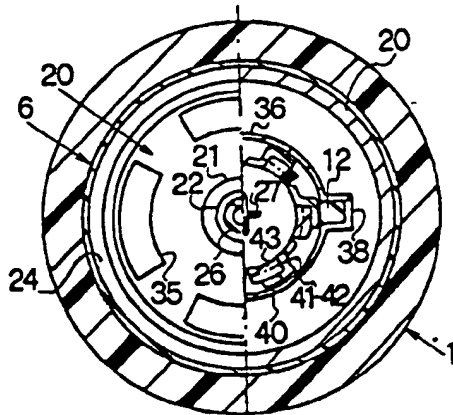
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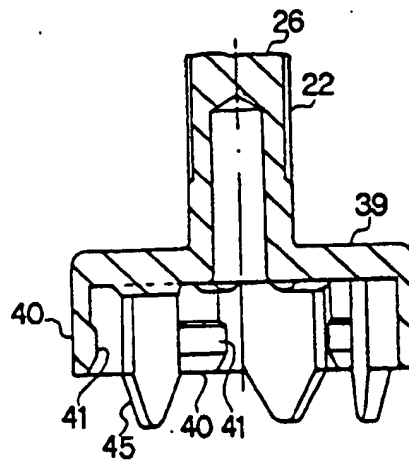
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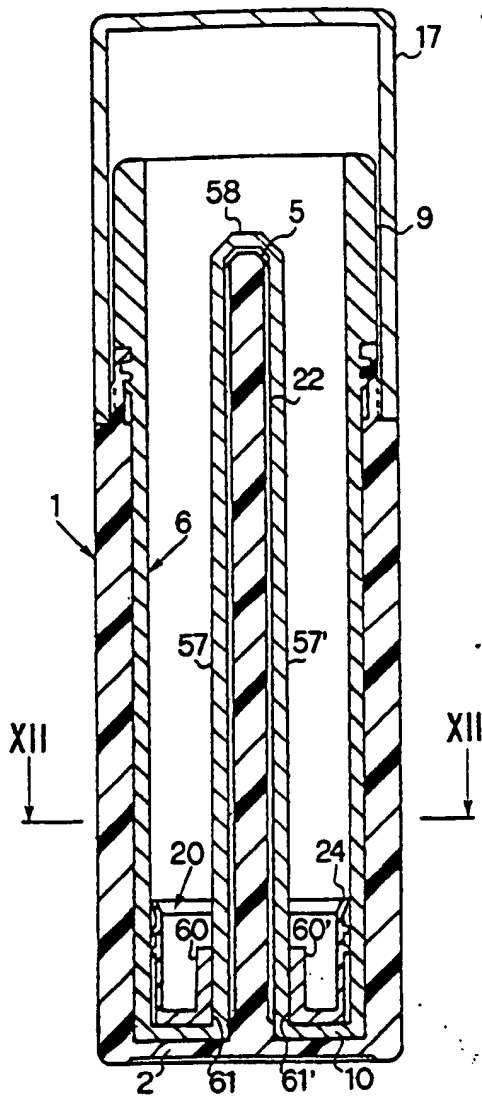
*Fig. 6*



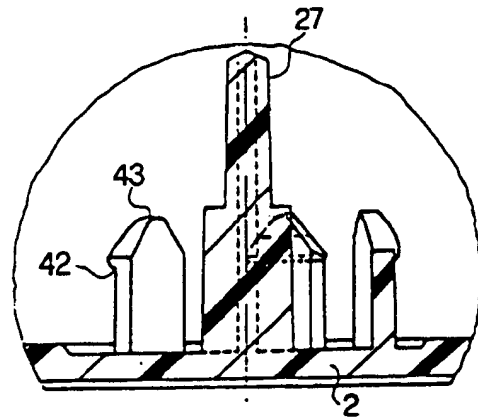
*Fig. 5*



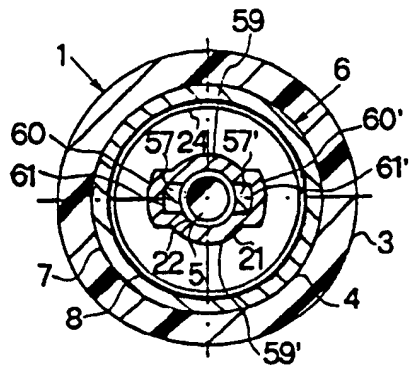
*Fig. 7*



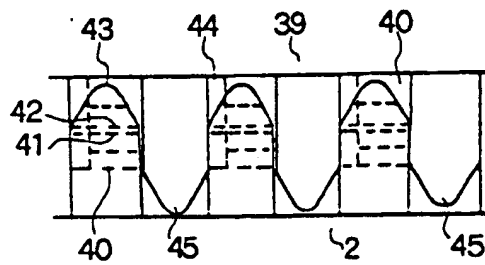
*Fig. 11*



*Fig. 8*



*Fig. 12*



*Fig. 9*